SPECIAL UPDATE OF CLIMATE CONDITIONS

Prepared for the West Nile Virus Task Force

NOAA-OGP Climate Information Project

Issue I *June 2002* ***P1***

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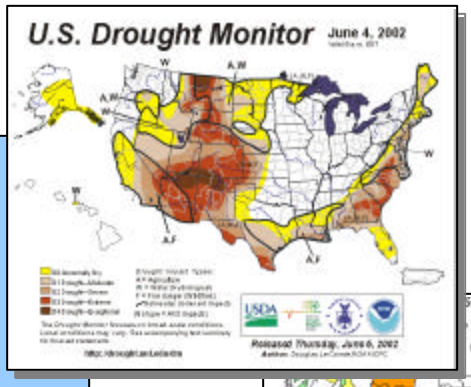
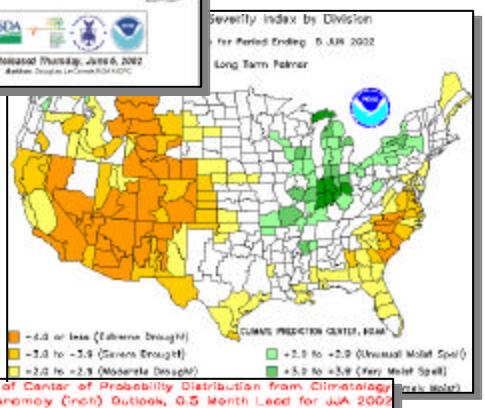
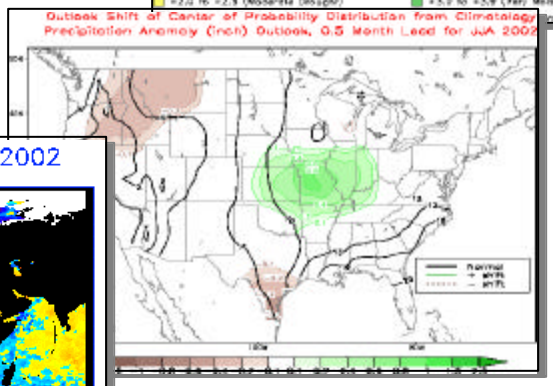
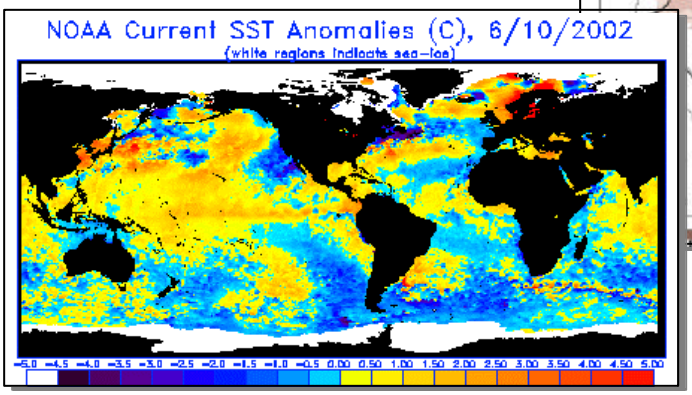








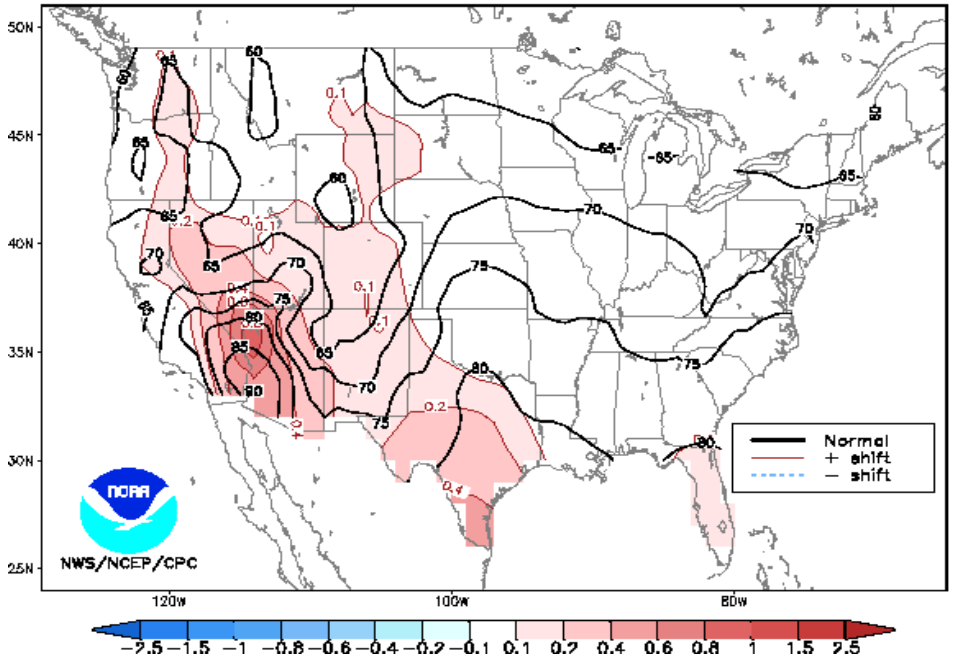
1) The CIP Special Update of Climate Conditions is part of a research project in the use of climate information that is supported by the NOAA Office of Global Programs and the USAID Office of Foreign Disaster Assistance. The information assembled in the reports is produced elsewhere in NOAA as well as from outside sources. The Update does not necessarily represent the view or interest of USAID-OFDA, NOAA, OGP or CIP.

2) Information provided in this issue of the Update is as current as made available up to June 12, 2002.

3) Visit the CIP website at http://www.cip.ogp.noaa.gov or write us cip@ogp.noaa.gov. To learn more about The Climate Variability and Health Program please visit the OGP website at: http://www.ogp.noaa.gov or write to juli.tjrtan@noaa.gov

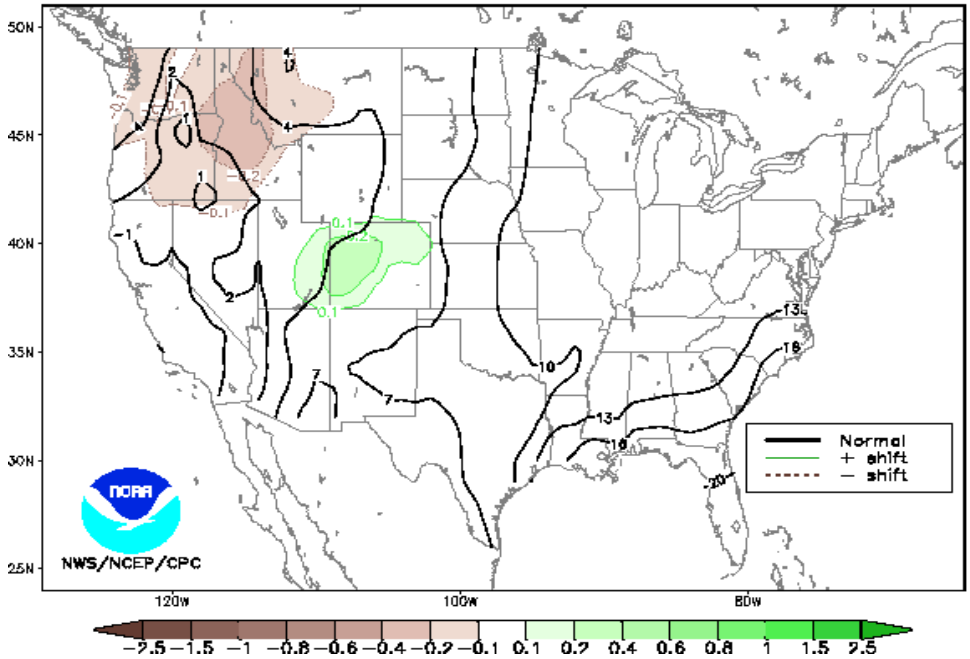
Temperature Forecast for Jul-Sep 2002

Outlook Shift of Center of Probability Distribution from Climatology
Temperature Anomaly (degr F) Outlook, 0.5 Month Lead for JAS 2002



Precipitation Forecast for Jul-Sep 2002

Outlook Shift of Center of Probability Distribution from Climatology
Precipitation Anomaly (inch) Outlook, 0.5 Month Lead for JAS 2002



The "Probability of Exceedence" Map for temperature and precipitation are produced by NOAA's Climate Prediction Center (CPC) and are made available at:
http://www.cpc.ncep.noaa.gov/products/predictions/90day/lead01/poe.html

SUMMARY OF THE OUTLOOK FOR NON-TECHNICAL USERS

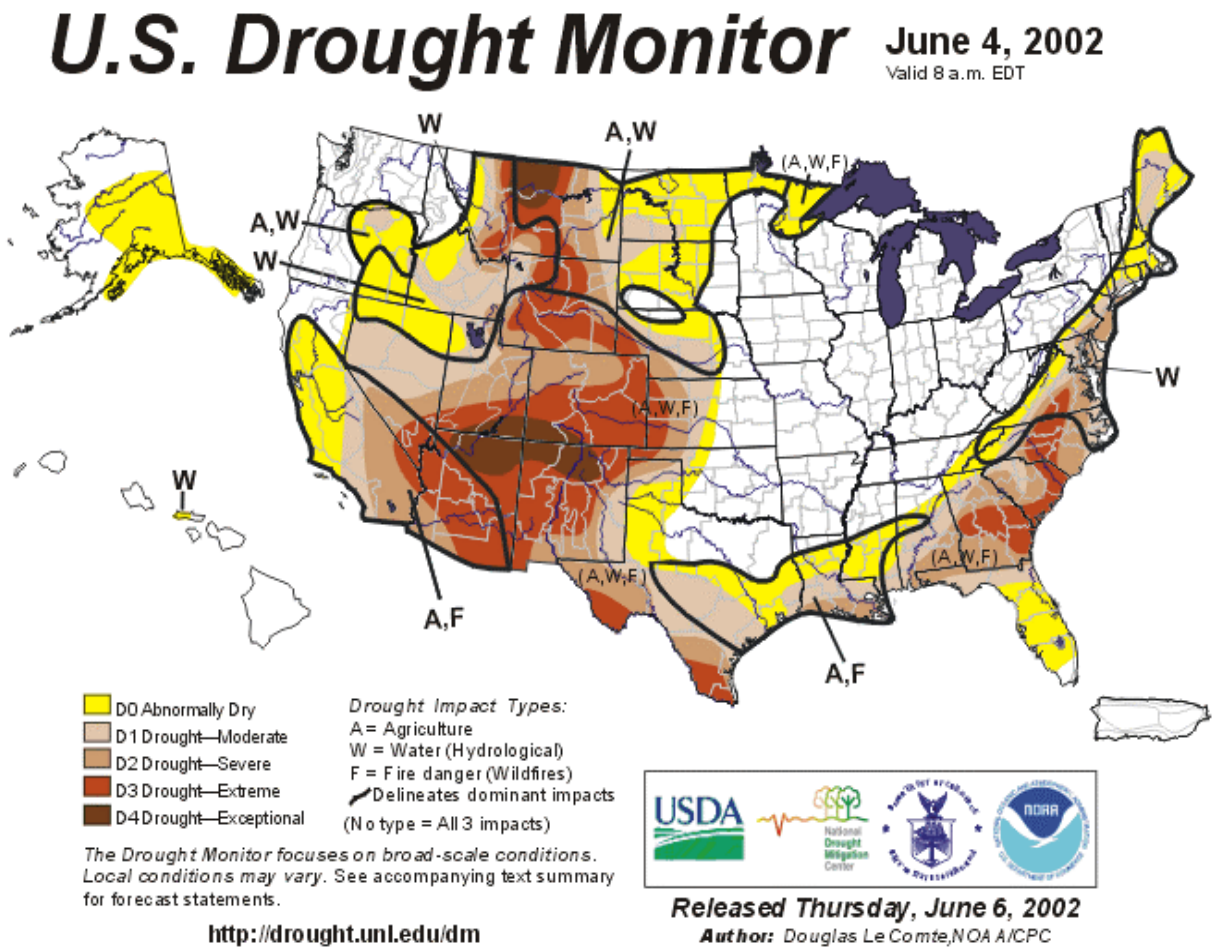
THIS SET OF OUTLOOKS IS AFFECTED BY THREE MAIN FACTORS - SOIL MOISTURE - EL NINO - AND TREND. THE OUTLOOK FOR JULY-AUGUST-SEPTEMBER 2002 CALLS FOR ABOVE NORMAL PRECIPITATION OVER THE CENTRAL ROCKIES - BASED PRIMARILY ON THE CONSTRUCTED ANALOG SOIL MOISURE MODEL - AND DRIER THAN NORMAL CONDITIONS OVER THE PACIFIC NORTHWEST AND NORTHERN GREAT BASIN - DUE TO A STRONG SIGNAL FROM TRENDS WITH SUPPORT FROM SIMILAR PRECEDING ATMOSPHERIC CONDITIONS AND SOIL MOISTURE. TEMPERATURES ARE EXPECTED TO BE ABOVE NORMAL OVER MOST OF THE WEST - TEXAS - AND FLORIDA - PRIMARILY DUE TO LONG-TERM TRENDS. PERSISTENT BELOW NORMAL SSTS ALONG THE WEST COAST WILL KEEP THE WARMTH FROM THE IMMEDIATE COASTAL REGION. ALTHOUGH THERE IS NO INDICATION FOR AVERAGE TEMPERATURES TO BE EITHER ABOVE OF BELOW NORMAL IN THE UPPER MIDWEST AND OHIO VALLEY - WET SOILS IN THESE REGION COULD CONTRIBUTE TO EXCESSIVELY HIGH HUMDIDITY AND DISCOMFORT DURING PERIODS WHEN TEMPERATURES DO GO ABOVE NORMAL. IMPACTS OF WET SOILS COULD CONTINUE INTO AT LEAST THE EARLY PART OF THE AUGUST-SEPTEMBER- OCTOBER SEASON - ALTHOUGH CONTINUING ABOVE NORMAL TEMPERATURES OVER THE SOUTHWEST AND PARTS OF THE SOUTHEAST ARE CONSISTENT WITH LONG-TERM TRENDS.

ALTHOUGH RECENT CONDTIONS HAVE BEEN RATHER DRY IN SOUTHEASTERN ALASKA - CONFLICTING OR WEAK SIGNALS FROM THE VARIOUS FORECAST TOOLS REQUIRE THAT CLIMATOLOGICAL PROBABILITIES (EQUAL CHANCES) BE FORECAST FOR ALASKA UNTIL LATE FALL. BEGINNING AT THAT TIME - THE EXPECTED EL NINO - WITH SOME SUPPORT FROM TRENDS - FAVORS ABOVE NORMAL TEMPERATURES OVER AT LEAST THE SOUTHEASTERN PORTION OF THE STATE.

RECENTLY THE EQUATORIAL PACIFIC OCEAN SURFACE TEMPERATURES HAVE SHOWN FURTHER WARMING AND ARE CURRENTLY AT LEAST ONE DEGREE C ABOVE NORMAL FROM 165E TO 100W. THE STRENGTH OF THE ANOMALIES HAS VARIED FROM MONTH TO MONTH DUE TO SHORT-TERM CHANGES IN ATMOSPHERIC PATTERNS NEAR THE EQUATOR - BUT AT THE PRESENT CONDITIONS ARE INDICATIVE OF THE EARLY STAGES OF A WEAK OF MODERATE EL NINO. THE OUTLOOKS FOR THE COLD SEASON REFLECT THIS - SHOWING ABNORMALLY WARM CONDITIONS FOR THE NORTHERN CONTINENTAL U.S. WITH DRIER THAN NORMAL OVER EXPECTED OVER THE NORTHWEST AND NORTHERN GREAT PLAINS. ABNORMALLY WET - AND IN SOME AREAS COLD - CONDTIONS ARE EXPECTED ACROSS MUCH OF THE SOUTH DURING WINTER AND INTO NEXT SPRING. ABOVE MEDIAN PRECIPITATION OCCURS IN CALIFORNIA AND ARIZONA MAINLY WITH VERY STRONG EL NINOS - AND THUS IS NOT FORECAST AT THIS TIME.

THE FORECAST REVERTS TO THE TREND - MAINLY WARMER THAN NORMAL TEMPERATURES AROUND THE MARGINS OF THE NATION - IN LATE SPRING AND SUMMER 2003.

The text was prepared by NOAA's Climate Prediction Center (CPC). The full text is available at: http://www.cpc.ncep.noaa.gov/products/predictions/90day/fxus05.html



National Drought Summary -- June 11, 2002

The West: A major winter-like storm dropped heavy rain and snow across western and northern Montana, leaving 2 to 6 inches of precipitation on drought-affected areas during June 7-11. Cut Bank's record total of 2.30 inches on the 8th was its highest daily total in nearly 11 years. During June 1-9, several locations recorded 20 to 30 percent of their normal annual accumulations and several times their normal monthly totals. The moisture boosted topsoil moisture and stream flows, resulting in an improvement from D4 to D3 drought in north-central Montana and lessening drought elsewhere in western and northern Montana. In contrast, little or no rain fell over most of the remainder of the West, an exception being some welcomed showers over eastern Colorado. Severe to extreme drought persisted from Wyoming southward to the Mexican border and westward to southern California. The dryness caused drought to expand from D1 to D2 in parts of southern Idaho and extreme D3 drought to expand slightly southward in Wyoming to the Colorado border. D3 drought diminished in northeastern Colorado, but expanded northward along the Utah-Colorado border. D2 drought edged eastward in eastern New Mexico while D3 drought dipped southward toward El Paso.

The U.S. Drought Monitor is prepared by NOAA's Climate Prediction Center (CPC), together with the United States Department of Agriculture and the National Drought Mitigation Center in Lincoln, Nebraska and can be found at: http://www.cpc.ncep.noaa.gov/products/expert_assessment/drought_assessment.html

The Plains and Midwest: The storm that brought the wintry mix to Montana also dumped heavy showers on northern North Dakota and northern Minnesota, eliminating abnormal dryness. D0 dryness did persist west of Lake Superior in Minnesota and across much of southern North Dakota. Continued lack of rain resulted in D1 drought expanding eastward across northwestern South Dakota and continuing in south-central North Dakota. Despite some thunderstorms, there was little change to the severe drought area affecting southwestern Nebraska, western Kansas, and northern, southwestern and southern Texas.

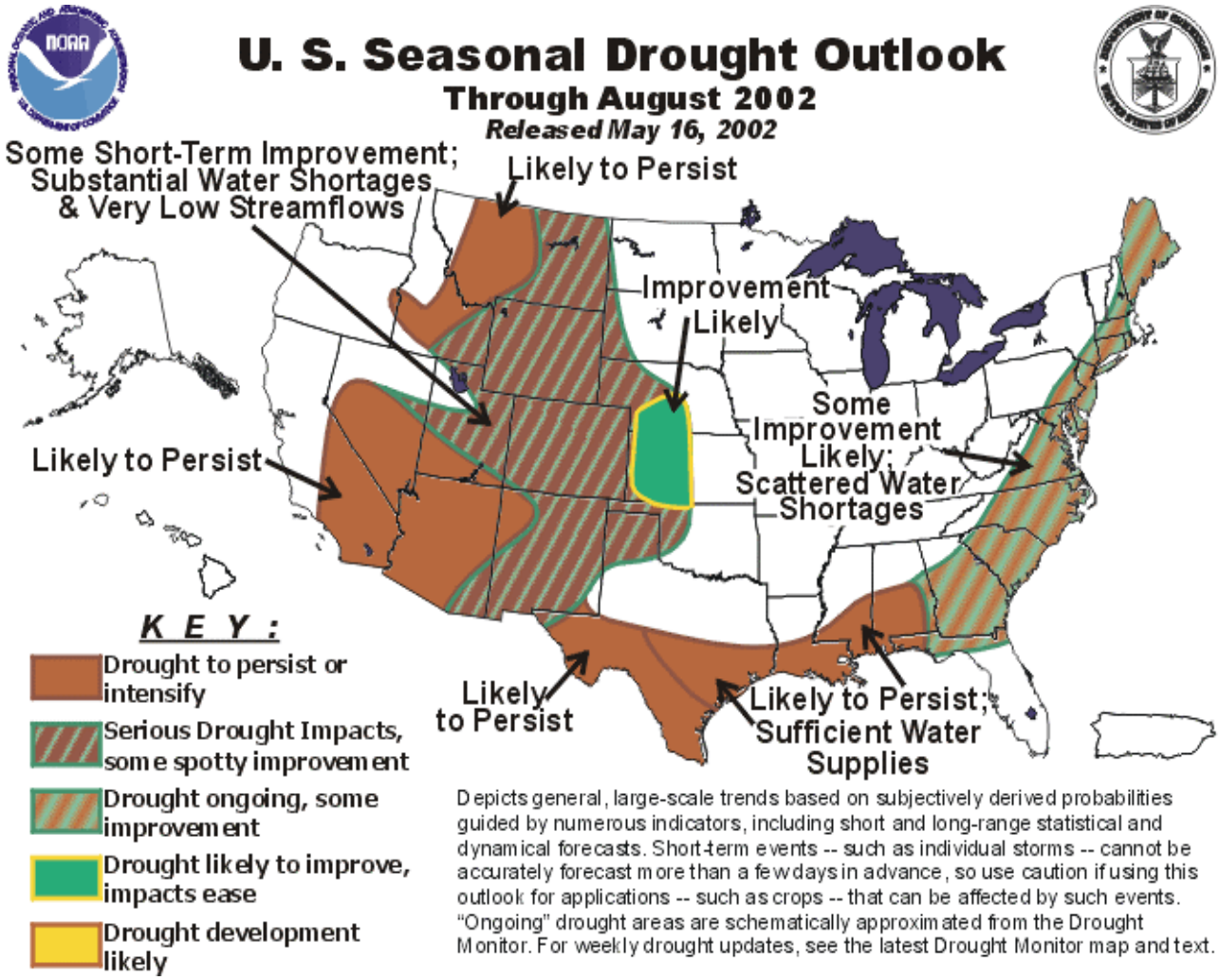
The Gulf Coast: Scattered thunderstorms did little to reduce the drought along the Gulf Coast, and dryness even expanded northward slightly in Alabama.

The East: Widespread thunderstorms occurring mainly on June 6 dropped more than 2 inches of rain on the drought areas of New Jersey, southern Connecticut, and New York City-Long Island. The moisture ended D1 drought in Connecticut and Long Island, and improved the severe (D2) drought to D1 in central and southern New Jersey. D0 dryness continued across much of the Northeast due to remaining precipitation deficits dating back to at least last autumn. Rainfall was more spotty to the south, and D1 and D2 drought expanded slightly westward in Maryland and Virginia. In Georgia, a 5-inch deluge along the coast caused the D3 drought to retreat slightly inland, but overall improvement in the state was minor. Extreme drought persisted from central Virginia to central Georgia.

Alaska, Hawaii and Puerto Rico: Scattered thundershowers brought locally heavy rains and isolated flash flooding to much of central and east-central Alaska; however, coverage was limited, and most locations did not receive enough rain to substantially reduce moisture deficits, though the active wildfire season was at least temporarily impeded. Following record spring dryness, June has been wetter than normal in south-central and southeastern parts of the state, including the Panhandle, but large precipitation deficits persist in many areas. Yakutat recorded about one-third of normal precipitation from mid-March through early June, and is 2 feet short of normal since the beginning of the year. D0 dryness continued in western Molokai, Hawaii. Rainfall was abundant over Puerto Rico.

Looking Ahead: Weather features to watch in the next 2 weeks that may affect areas experiencing dryness include: 1) showers and thunderstorms dropping 1 to 2 inches of rain over the mid-Atlantic region June 12-16; 2) from 0.5 to 1.0 inches falling over the central High Plains during June 12-16; 3) normal rainfall over the central Rockies, including Colorado, during June 18-26; and 4) above-normal rainfall across the Southeast and mid-Atlantic region during June 18-22.

The U.S. Drought Monitor is prepared by NOAA's Climate Prediction Center (CPC), together with the United States Department of Agriculture and the National Drought Mitigation Center in Lincoln, Nebraska. Text description of the Drought Monitor, included above, can be found at: http://www.drought.unl.edu/dm/monitor.html



Latest Seasonal Assessment

From mid-April to mid-May, drought conditions continued to ease slowly and erratically along most of the Eastern Seaboard from South Carolina to Maine, especially in northern and western sections of the region. Drought at least temporarily ended in the central Appalachians and foothills and in far southeastern New England, including the Boston, MA area. Most areas still affected are currently in moderate to severe drought, with some extreme drought lingering in parts of southern Virginia and the Carolinas.

So far, the drought has not significantly affected agriculture, because timely near- to above-normal rainfall has kept top soils sufficiently moist since early March. On the other hand, stream flows remain low from the mid-Atlantic region southward, and both reservoir stores and groundwater levels have improved somewhat but remain critically low in a number of areas, particularly those that rely on shallow wells for their water supplies.

Six-month precipitation totals through mid-May were six to nine inches below normal in a swath from southern New England southward through the Carolinas, and twelve-month totals were at least a foot below normal in portions of southwest New England, the lower Northeast, the northern mid-Atlantic region, the southern Virginia and North Carolina Piedmont, and the South Carolina coastal

The United States Drought Outlook is produced by NOAA'a Climate Prediction Center (CPC). It is available at: http://www.cpc.ncep.noaa.gov/products/expert_assessment/drought_assessment.html

plain. Our outlook for the East Coast continues to call for slow and incomplete improvement, with the likelihood that some water shortages will persist into August. It should be pointed out that long-range outlooks for the warm season in the East have low confidence, and it would not take an especially long period of below-normal rainfall and above-normal temperatures for drought impacts to quickly intensify.

Farther south and west, an exceptionally hot and dry month has allowed drought conditions to quickly develop and/or intensify from the southern Rockies eastward across central and south Texas, the central Gulf Coast region, and southern Georgia. Six to nine inch rainfall deficits have accumulated in southern sections of Alabama and Mississippi in just the last three months, and part of this region is over a foot below normal since mid-November.

Fortunately, areas from the lower Mississippi Valley westward to central Texas were considerably wetter than normal during the previous six months, making hydrologic impacts in this region minimal. Across central and south Texas and the northeastern Gulf coast, however, these conditions have exacerbated longer-term deficits already in place, creating extreme drought conditions in parts of Georgia and in much of southern and western Texas near the Rio Grande.

Hydrologic impacts are very much a concern in this latter region, where the quantity of water stored in two major international reservoirs has dropped to its lowest level since the region's 1998 drought. Also, the heat and dryness throughout the region have led to a rapid escalation of fire danger, particularly in Texas and Georgia, although no expansive fires have occurred to date.

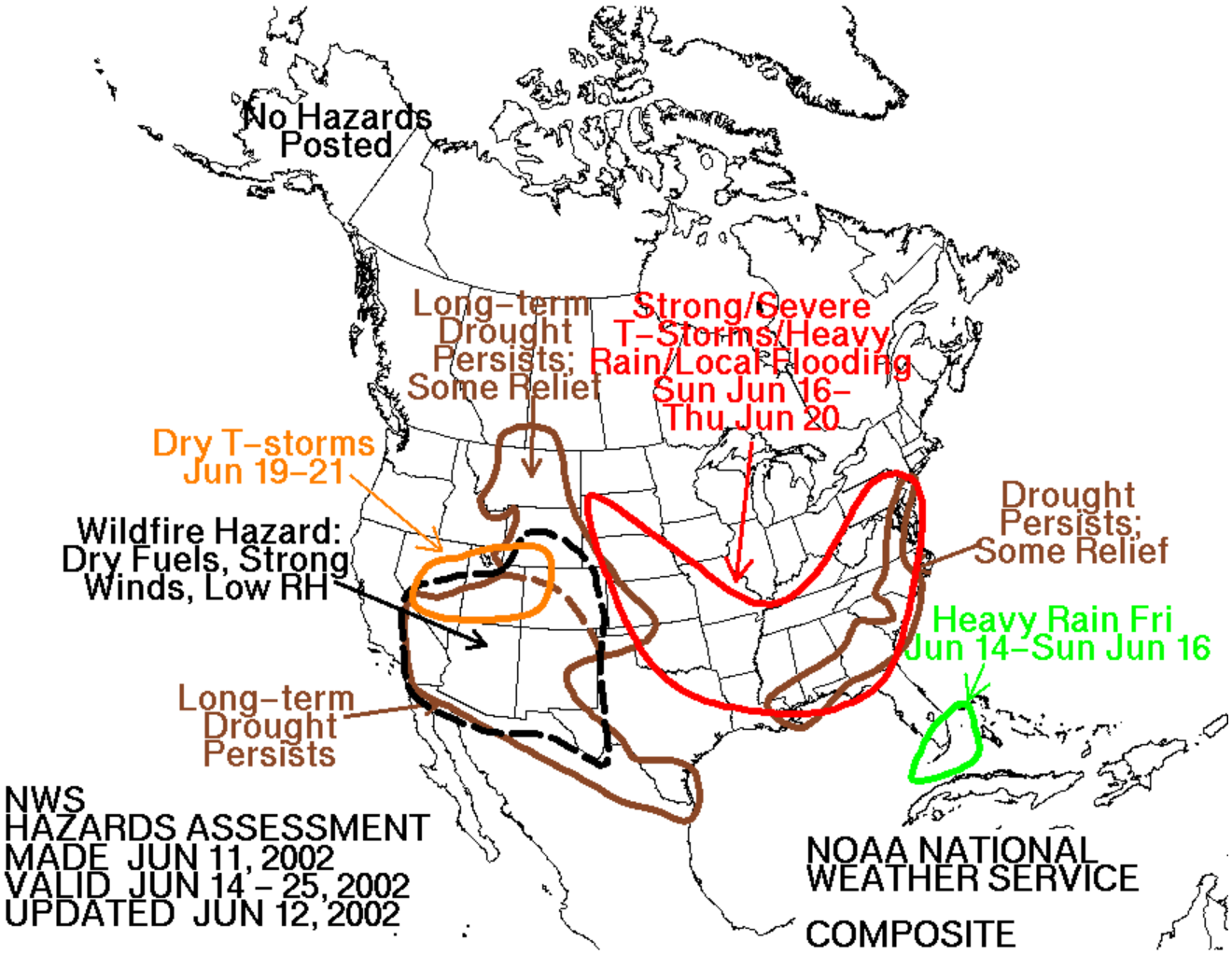
The outlook for the ***next three months*** calls for continued slow and likely incomplete improvement in Georgia, like the rest of the Eastern Seaboard. Farther west, below-normal precipitation is anticipated in the southern half of Texas during June-August, likely keeping severe drought and a myriad of impacts intact through the period. From central Texas eastward through the central Gulf Coast region, below-normal rainfall is anticipated through the remainder of May, and late-spring drought has an increasing tendency to linger into summer as one moves westward south Atlantic Coast, so we are calling for drought to persist to some extent in this region.

It should be noted that in areas near the Gulf of Mexico, it is possible for early-season tropical cyclones to move ashore and quickly eliminate drought (while potentially ushering in a host of other impacts), but these systems can't be accurately forecast more than several days in advance, and since the climatological likelihood of such a storm affecting any particular location is small (Tropical Storm Allison in 2001 notwithstanding), we've not depicted this possibility on the Drought Outlook map. Farther north, soil moisture considerations and recent climatic trends favor improving conditions in part of the central Plains, but for most of the large drought area covering the interior West, the outlook is not optimistic.

Below-normal precipitation should keep drought entrenched in the northwestern Rockies through the period, and seasonable dryness in the Southwest will have a similar effect. In the rest of the West, precipitation typically increases during July and August, offering some hope for limited, spotty drought relief at that time, but significant long-term and hydrologic drought relief relies almost exclusively on mountain snow pack, which is sorely lacking this year.

We can therefore assert with a good degree of confidence that, despite the potential for increasing precipitation during July and August, stream flows and water supplies will drop to critically low levels in many of these areas. In addition, areas from the central Rockies southward into Mexico are experiencing a high to extreme risk of wildfires, partially in response to the regions' ongoing drought, and this risk level is expected to continue through June and possibly beyond.

The United States Drought Outlook is produced by NOAA'a Climate Prediction Center (CPC). Full text description of the Drought Outlook is available at:
http://www.cpc.ncep.noaa.gov/products/expert_assessment/drought_assessment.html

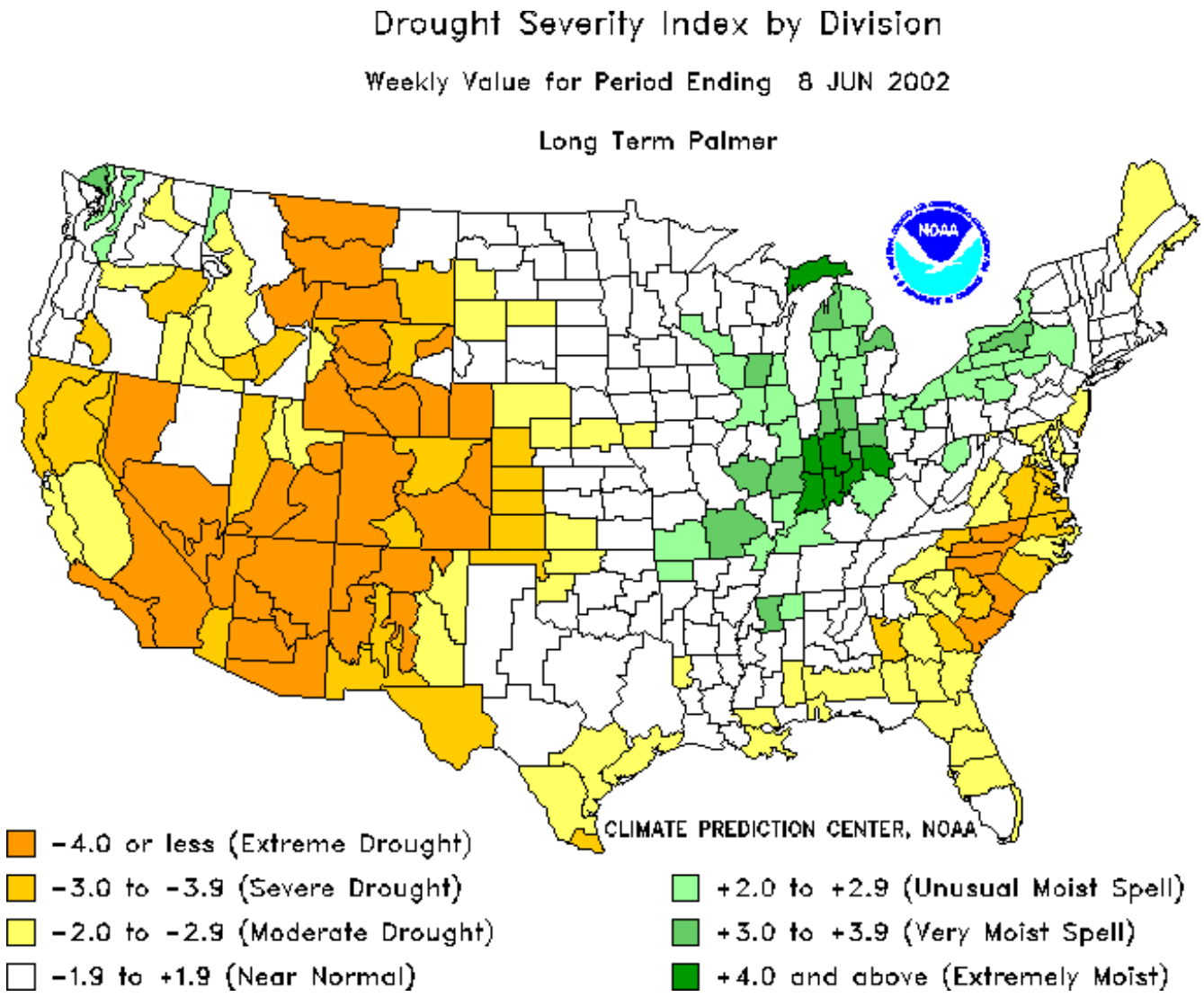


3-5 Day Outlook (Jun 14th – Jun 16th) Strong to severe thunderstorms are likely from eastern Colorado and Texas eastward through the Gulf Coast States to South Carolina. A short wave moving through the trough seems likely to bring heavy rains to Oklahoma, Arkansas, Texas and Louisiana late in the period. A weak tropical disturbance is expected to bring heavy rain to far southern sections of Florida.

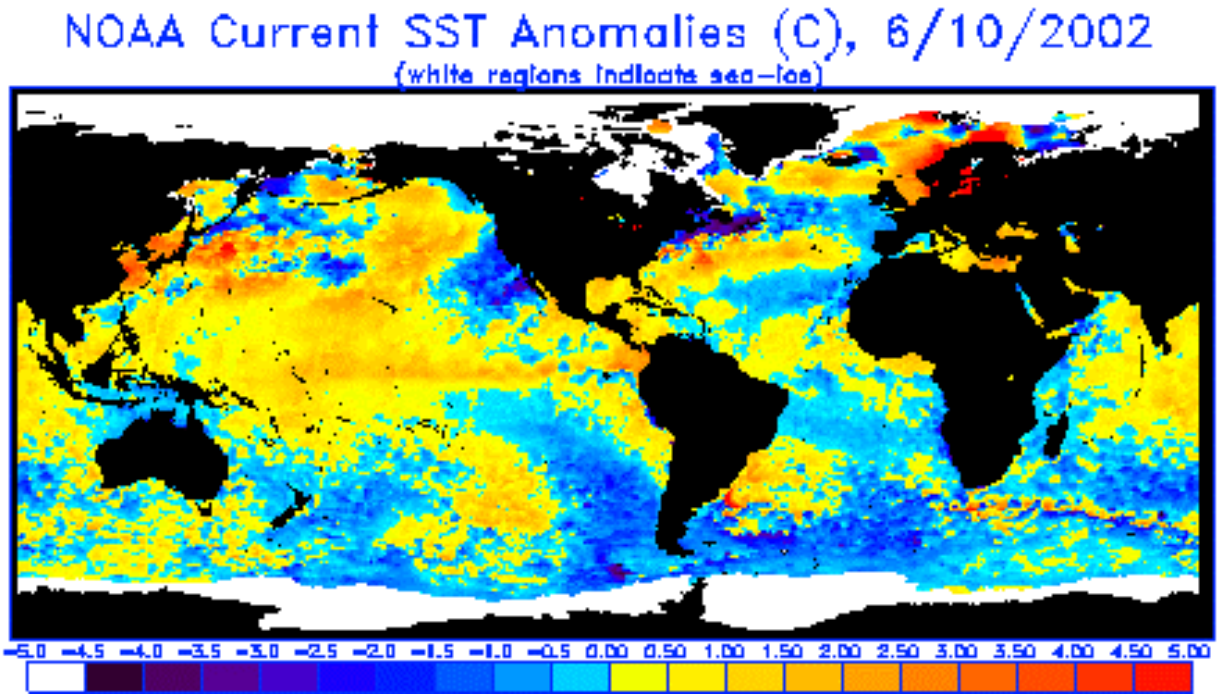
6-10 Day Outlook (Jun 17th through June 21st) Heavy precipitation associated with thunderstorms is likely to be located in the Southern U.S. early in the period and toward the central and northern Great Plains and the Tennessee Valley late in the period.

11-14 Day Outlook (Jun 22nd through Jun 25th) Forecastable hazards during this timeframe include the persistence of both the long-term drought areas, and potential wildfire areas. There is an enhanced risk of wildfires across the Southwest during those hot, dry days when surface winds are strongest. The extended model run indicates some chance that a ridge will develop over the West. Should this occur, temperatures will likely rise to well above normal values during this period. With the climatological onset of the Southwestern summer monsoon now only two to three weeks away, attention should turn to the likelihood of dry lightning induced wildfires.

The United States Threats Assessment is produced by NOAA'a Climate Prediction Center (CPC). It is available at: http://www.cpc.ncep.noaa.gov/products/expert_assessment/threats.html.



The Palmer Drought Severity Index id produced by NOAA's Climate Prediction Center (CPC), and made available at: http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/regional_monitoring/palmer.gif



EL Niño Summary

During the 4-week period from mid-April to mid-May, sea surface temperatures in the eastern tropical Pacific have cooled slightly to become just weakly above average. The atmosphere has continued to lack the large-scale behavior characteristic of developing El Niño events. While generally above average sea surface temperatures still stretch from the coast of South America westward to beyond the dateline, there are now large portions in the eastern half of the basin having only weak departures from the average. Ocean temperatures have cooled considerably from their abnormally warm levels near the immediate coasts of Peru and Ecuador. There continues to be an enhanced likelihood of an El Niño in 2002 relative to an average year. The IRI's assessment is that there is an approximately 55% probability of an El Niño by middle to late 2002, lasting into early 2003. This assessment is based on the collective forecasts of many computer models of various types, as well as on the experience of the several oceanographers and atmospheric scientists familiar with the El Niño phenomenon. Compared with the statement from one month ago, this probability has decreased to a moderate level, since movement toward El Niño conditions has not continued and the seasonal window of opportunity (February to May) is beginning to close. Compared to one month ago, the range of likely scenarios for tropical Pacific sea surface temperatures has narrowed somewhat. It now appears that the most likely outcome will be either a weak El Niño or a near-neutral condition during the remainder of 2002. If an El Niño develops this northern summer, it would likely be weak, and past events suggest it would continue for at least the remainder of the year and likely through March of 2003.

The text was produced by the International Research Institute for Climate Prediction (IRI), which issues monthly summaries about the current state of ENSO. The summary text is available at: http://iri.columbia.edu/climate/ENSO/currentinfo/QuickLook.html. The image was produced by NOAA's OAR/OSDPD team and is located at: http://www.osdpd.noaa.gov/PSB/EPS/SST/climo.html. Additional images and information can be obtained from at: http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/. NOAA's latest news release on ENSO from May 9th can be found at: http://www.noaanews.noaa.gov/stories/s905.htm